

4. (Amended) An optical connector according to claim 1, wherein the distal end edge of said plate-like portion slants from a first cross-section face of said plate-like portion to a second cross-section face of said plate-like portion.

REMARKS

Claims 1-5 are pending. By this Amendment, claims 1-4 are amended. No new matter is added by any of these amendments.

Applicant appreciates the courtesies extended to Applicant's representative by Examiners Kim and Kim during the February 13, 2003 interview. The points discussed during the interview are incorporated in the remarks below and constitute Applicant's record of the interview.

Reconsideration based on the following remarks is respectfully requested.

The attached Appendix includes a marked-up copy of each rewritten claim (37 CFR §1.121(c)(1)(ii)).

I. Amendment Entry after Final Rejection

Entry of this amendment is proper under 37 CFR §1.116 because the amendments: a) place the application in condition for allowance (for all the reasons discussed herein); b) do not raise any new issues requiring further search or consideration; c) place the application in better condition for appeal (if necessary); and d) address formal requirements of the Final Rejection and preceding Office Action. The foregoing amendments do not raise any new issues after Final Rejection. Accordingly, Applicant respectfully requests entry of this Amendment.

II. Claims 1-4 Define Patentable Subject Matter

The Final Office Action rejects claims 1-4 under 35 U.S.C. §103(a) over U.S. Patent 6,174,091 to Herrmann in view of U.S. Patent 5,452,386 to van Woesik. This rejection is respectfully traversed.

Herrmann and van Woesik do not teach or suggest, either alone or in combination, an optical connector including, *inter alia*, a stopper including a plate-like portion having a positioning slit between blade portions, each of the blade portions being formed by a side edge of the positioning slit at a right angle to a distal end edge of the plate-like portion, wherein the plate-like portion can be inserted into the mounting hole along the cord receiving hole portion in a stopper insertion direction perpendicular to the cord insertion direction of the optical fiber cord, the housing has stopper retaining portions for holding the plate-like portion of the stopper, the stopper retaining portions engaging a retaining side of the plate-like portion and having a cross-section perpendicular to the cord insertion direction of the optical fiber cord, and when the stopper is inserted into the mounting hole along the cord receiving hole portion, said each of the blade portions removes a portion of the covering portion, thereby fixing the optical fiber cord along the axis of the optical fiber cord, as recited in claim 1.

Instead, Herrmann discloses a fiber optic connector having a fiber holding clip 10 inserted into a connector housing 2 through an opening 9. The clip 10 includes a first limb 11 with chamfered limbs to pierce an insulating sheath 7 protecting an optical waveguide 8 of an fiber optic cable 6, and a second limb 13 with two parts each having a latching hook 14 that engages the housing 2 at a latching lug 16 along a cross-section interface that is parallel to the direction of fiber optic cable insertion. See col. 2, lines 40-60, col. 3, lines 11-16 and Figs. 2-5 of Herrmann.

Consequently, by teaching chamfered limbs in the first limb 11, Herrmann fails to teach or suggest the blade portions of the stopper as having a right angle between the side edge of the positioning slit and the distal end edge of the plate-like portion, as provided in Applicant's claim 1. By approaching the cable at a non-perpendicular angle, the chamfered limbs of Herrmann preclude removing part of the covering portion by the blade portions, and thus teach away from Applicant's advantages.

Also, as conceded in the Final Office Action, Herrmann does not teach or suggest the stopper retaining portions engaging a retaining side of the plate-like portion and having a cross-section perpendicular to the cord insertion direction of the optical fiber cord, also recited in claim 1. These arguments also extend to Applicant's claims 2-4 by their dependency from claim 1.

Further, van Woesik discloses a clip 12 having a pair of plates 64 connected by a base 62, each plate 64 having a pair of legs 66 separated by a slit 67 and ending in chamfered blades 68. See col. 4, line 63 - col. 5, line 6 and col. 5, lines 50-66 and Figs. 11 and 12 of van Woesik. Thus, van Woesik fails to teach or suggest the blade portions of the stopper as having a right angle joining the side edge of the positioning slit and the distal end edge of the plate-like portion, as provided in Applicant's claim 1.

Also, while the clip 12 in van Woesik includes retention pips 70 to engage with the walls of the slots 33 on the housing 4 for securing the clip 12, the slots 33 fail to include any means on the housing 4 to secure the retention pips 70 in place during insertion of the clip 12. See col. 5, line 67 - col. 6, line 5 and Figs. 18 and 19 of van Woesik. Thus, van Woesik does not teach the stopper retaining portions, as provided in Applicant's claim 1.

With respect to the dependent claims, Herrmann and van Woesik lack a stopper including, *inter alia*, the side edge of the positioning slit for said each of the blade portions projects a gable wedge having a cross-section corner along a thickness midline of the side edge for each of the blade portions, the cross-section corner extending toward the positioning slit, as recited in Applicant's claim 3 and illustrated in Fig. 2. Instead, the first limb 11 in Herrmann and the blades 68 in van Woesik feature exhibit straight cross-section edges until tapering at their end tips. See Fig. 4 of Herrmann and Fig. 12 of van Woesik. Also, Herrmann and van Woesik do not teach or suggest that the distal end edge of the plate-like portion slants from a first cross-section face of said plate-like portion to a second cross-

section face of said plate-like portion, as recited in Applicant's claim 4. Thus, Herrmann and van Woesik fail to render obvious the features recited in Applicant's dependent claims.

For at least these reasons, Applicant respectfully asserts that independent claim 1 is now patentable over the applied references. Dependent claims 2-4 are likewise patentable over the applied references for at least the reasons discussed as well as for the additional features they recite.

III. Claim 5 Defines Patentable Subject Matter

The Final Office Action rejects claim 5 under 35 U.S.C. §103(a) over Herrmann and van Woesik in view of U.S. Patent 6,401,585 to Morgan.

With regard to claim 5, Morgan does not compensate for the deficiencies of Herrmann and van Woesik, as explained above. Instead, Morgan discloses a double cutting edge saw blade for reciprocating power saws, and is completely unrelated to fiber optic connections. Applicant has submitted that Morgan represents non-analogous art, without even superficial rationale to combine with Herrmann. The Final Office Action asserts that because both Morgan and Applicant address cutting instruments that Morgan presents prior art. Applicant respectfully disagrees.

The saw blade, as provided in Morgan, includes first and second cutting edges to cut through materials of different hardness. The saw blade cuts by moving the blade back and forth across the material to be cut. See col. 1, lines 56-64 and Fig. 2 of Morgan. By contrast, Applicant's claimed features of reverse blades project from the opposed side edges of the positioning slit, as recited in claim 5. These reverse blades are designed to augment the fastening of the stopper and the cord within the housing by inserting the stopper into the cover portion from a single direction. Thus, Applicant maintains that Morgan represents nonanalogous art in the context of a person of ordinary skill in the art of connecting optical cables. Thus, Morgan does not qualify as prior art for purposes of a rejection under §103.

For at least these reasons, Applicant respectfully asserts that dependent claim 5 is now patentable over the applied references. Consequently, all the claims are in condition for allowance. Thus, Applicant respectfully requests that the rejections under 35 U.S.C. §103 be withdrawn.

IV. Conclusion

In view of the foregoing amendments and remarks, Applicant respectfully submits that this application is in condition for allowance. Favorable consideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further is desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicant's undersigned representative at the telephone number listed below.

Respectfully submitted,

James A. Oliff
Registration No. 27,075

Gerhard W. Thielman
Registration No. 43,186

JAO:GWT/lrd

Attachment:
Appendix

Date: April 7, 2003

OLIFF & BERRIDGE, PLC
P.O. Box 19928
Alexandria, Virginia 22320
Telephone: (703) 836-6400

DEPOSIT ACCOUNT USE AUTHORIZATION Please grant any extension necessary for entry; Charge any fee due to our Deposit Account No. 15-0461
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APPENDIX

Changes to Claims:

The following is a marked-up version of the amended claims:

1. (Twice Amended) An optical connector comprising:

_____ a housing having a cord receiving hole portion ~~in which~~ and a mounting hole,
the cord receiving hole portion receiving an optical fiber cord can to be inserted and received
along an axis of said optical fiber cord in a cord insertion direction, the mounting hole
disposed along said cord receiving hole portion; and

_____ a stopper including a plate-like portion having a positioning slit between blade
portions, the positioning slit having a width slightly smaller than a diameter of said optical
fiber cord, each of the blade portions being formed by a side edge of said positioning slit
joined at a right angle to a distal end edge of said plate-like portion;

_____ wherein

_____ a mounting hole, through which said plate-like portion of said stopper can be
inserted into said mounting hole along said cord receiving hole portion in a stopper insertion
direction perpendicular to a the cord insertion direction of insertion of said optical fiber cord,
is formed in said housing; and;

_____ said housing has stopper retaining portions for holding said plate-like portion
of said stopper, said stopper retaining portions engaging a retaining side of said plate-like
portion and having a cross-section perpendicular to the cord insertion direction of insertion of
said optical fiber cord; and

wherein when said stopper is inserted into said mounting hole along said cord
receiving hole portion, said each of said blade portions, formed by a side edge of said
positioning slit and a distal end edge of said plate-like portion disposed perpendicular to said
side edge, penetrates into a covering portion of said optical fiber in a direction different from

~~a direction toward an~~ cord, with the positioning slit being perpendicular to the axis of said optical fiber cord, while ~~foreing~~ said each of the blade portions removes a portion of said covering portion away, thereby ~~positioning~~ fixing said optical fiber cord ~~in a fixed manner in~~ the ~~direction of~~ along the axis of said optical fiber cord.

2. (Amended) An optical connector according to claim 1, ~~in which~~ wherein said stopper includes a pair of said plate-like portions interconnected by an interconnecting piece portion in parallel relation to each other, so that said stopper has a generally U-shape when viewed from ~~the~~ a side thereof; and

_____ when said stopper is inserted into said cord receiving hole portion, said pair of plate-like portions ~~position~~ fixing said optical fiber cord ~~in a fixed manner in the direction of~~ along the axis of said optical fiber cord.

3. (Amended) An optical connector according to claim 1, ~~in which~~ each of ~~wherein the opposed~~ side edges of said positioning slit ~~is tapering~~ for said each of the blade portions projects a gable wedge having a cross-section corner along a thickness midline of the side edge for said each of the blade portions, the cross-section corner extending toward the ~~inside of~~ said positioning slit.

4. (Amended) An optical connector according to claim 1, ~~in which~~ wherein the distal end edge of said plate-like portion ~~is tapering~~ slants from in a direction first cross-section face of ~~insertion~~ said plate-like portion to a second cross-section face of said plate-like portion.